

# THE NAUTILUS.

---

Vol. XXXVIII

JANUARY, 1925.

No. 3

---

## THE FAMILY LANCIDÆ DISTINGUISHED FROM THE ANCYLIDÆ

BY HENRY A. PILSBRY

The large West American fresh-water limpets now forming the genus *Lanx* Clessin have always been associated with the Ancyliidæ. Hannibal, in his classification of 1912<sup>1</sup> placed *Lanx* in the subfamily Ancylinæ and its subgenus *Walkerola* in the Lævapecinæ. Subsequently he proposed a subfamily Lancinæ,<sup>2</sup> without stating what genera it contained. His classification of Ancyli, however, does not appear worth criticism. It was not based upon any new observations or data.

In 1918 Walker<sup>3</sup> made a subfamily Lancinæ for the genera *Lanx* and *Fisherola*.

Recently in the course of looking into the characters and position of the adaptive gill or pseudobranch in some New York Ancyliidæ I took the occasion to examine several species of *Lanx*, and was surprised to find them without any trace of a gill (pseudobranch). This was confirmed, together with other characters mentioned below, in *L. patelloides*, *L. subrotundata* and *L. (Fisherola) lancides*.

<sup>1</sup> Proc. Malac. Soc., London, X, p. 147.

<sup>2</sup> Nautilus, XVIII, 1914, p. 24.

<sup>3</sup> Univ. of Michigan Mus. Zool. Misc. Pub., No. 6, p. 17. Walker credited the subfamily Lancinæ to Hannibal, but as the latter author neither defined it or stated its contents, he can hardly be author of the group defined by Walker.

As *Lanx* has no lung, merely an open furrow between mantle and foot, its respiration is probably aquatic and effected by the whole of the integuments exposed. It appears to be a river snail, probably in running, well oxygenated water. In this connection, information on its station is urgently needed.

It is strange that no conchologist has noticed hitherto that in *Lanx* the apex of the shell, though generally very near the center, is *slightly before it*, never behind, as in all patelliform Ancyliidæ. This anterior position is strongly marked in such species as *L. nuttalli* and *L. lancides*. This last form was said by Hannibal to have the apex "subterminally posterior"!

The characters of shell, pallial region jaw and teeth demonstrate that *Lanx* has no direct or near relation to the Ancyliidæ. It belongs to a separate family, related to Lymnæidæ somewhat as the Ancyliidæ are to the Planorbidæ.

The more conspicuous characters are here contrasted :

## ANCYLIDÆ

Shell limpet-like,<sup>1</sup> the apex behind the middle and more or less inclined to the right or left.

A gill (pseudobranch) hanging in the mantle cavity (on the right side in *Ancylus*, on the left in all other known genera).

Jaw in form of a high arch of many small, subequal elements.

Radula various, but not Lymnæid.

## LANCIDÆ

Shell limpet-like, the apex in front of the middle and on the median longitudinal line.

No pseudobranch or other appendage in the mantle cavity. Animal dextral.

Jaw composed of a large upper piece and two lateral appendages as in Lymnæa.

Radula Lymnæid.

<sup>1</sup> At least in the comparable genera.

The number of species of *Lanx* is uncertain, as the distribution and variation are still imperfectly worked out. It may be that *L. patelloides* intergrades with *L. newberryi*, but some large lots I have seen do not show intergradation. The distinction

of *Fisherola* as a genus appears to me quite uncalled for, as *L. nuttalli* and *kootaniensis* have intermediate positions of the apex between *F. lancides* and the species with nearly central apices. In fact, I am much disposed to unite all the described forms of the Columbia river system under the oldest name, *Lanx nuttalli* (Hald.); *F. lancides*, *L. kootaniensis* and another unnamed form from the Spokane river being subordinated as subspecies. While I have seen many specimens, they are from few, well separated localities.

What grounds, if any, exist for the distinction of the Pliocene *Zalophancylus* Hannibal have not been made clear. A list of the species of Lancidæ follows.

LANX PATELLOIDES (Lea). Sacramento drainage, California. Syn., *A. patelloides* Binney.

LANX NEWBERRYI (Lea). Sacramento drainage.

LANX SUBROTUNDATA (Tryon). Umpqua drainage, Oregon.<sup>1</sup> Syn., *L. subrotundus* Walker, 1918.

LANX ALTA (Tryon). Klamath River. Appears to me distinct from *patelloides* and *newberryi*, but nearer *subrotundata*. For the present it had better stand as a species.

LANX KLAMATHENSIS Hannibal. Upper Klamath Lake, Oregon. Well distinguished by the depressed form and thin texture. It is the type of s.-g. *Walkerola* Hannibal.

LANX NUTTALLI (Hald.). Columbia drainage. As will be seen by comparing the measurements, locality and collector, Haldeman's *A. crassus* was described from the same specimen. Probably he forgot his former name. The northern *A. kootaniensis* Baird appears to be a subspecies with less anterior apex; I have not seen topotypic material. *Fisherola lancides* is another subspecies of the Snake River, in which the apex is a little more anterior, but some of the original lot before me run close to *nuttalli*.

<sup>1</sup> Said by Hannibal to belong to the "Columbia system," but the reason for this grouping is not apparent.